DECLARATION OF ROBERT A. MERCER

ATTACHMENT 1

RESUME

Robert A. Mercer
President
HAI Consulting, Inc.
737 29th Street, Suite 200
Boulder, Colorado 80303
(303) 442-5395

Work Experience

President, and formerly Senior Vice President, Hatfield Associates, Inc., and HAI Consulting, Inc., Boulder, Colorado, March, 1987 - Present[1]

Provides strategic planning and education related to public and private telecommunications infrastructures, with a particular emphasis on local exchange competition, broadband integrated networks, intelligent networks, and private enterprise networking. Examples of current work include the analysis of competitive alternatives for the provision of local exchange services, evaluating the cost of local exchange service provided by incumbent telephone companies and other competitive entities, and advising a client on the means for evaluating the performance of its network services integrator.

Conducts telecommunications policy analyses, with particular current emphasis on the interconnection, unbundling, and resale aspects of the 1996 telecommunications legislation, and past involvement in the FCC's Open Network Architecture (ONA) and Video Dial Tone (VDT) concepts. Co-author of the well-known "Hatfield Report" and "Hatfield II Report" on the ONA concept, and of a report titled "The Enduring Local Bottleneck" which deals with the ability of alternative providers to enter the local exchange telecommunications business. Also testifies before state regulatory bodies in proceedings pertaining to the cost of local exchange service and on the conditions necessary for local exchange competition to flourish.

Adjunct Professor, University of Colorado, Interdisciplinary Master of Science in Telecommunications Program, Boulder, Colorado (June, 1986 - Present); Pace University Department of Computer Systems and Information Sciences, White Plains, New York (August, 1988 - December, 1994)

Teaches courses on data and computer networks, Open Systems Interconnection, TCP/IP, multi-protocol networking, Asynchronous Transfer Mode (ATM), network management, and telecommunications standards. At University of Colorado, directs and participates on Master's thesis committees. Also participates in effort to define and coordinate the program's curriculum,

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[1] Hatfield Associates, Inc., discontinued operation as a telecommunications consulting firm in 10/97, and its principals and work program transferred to HAI Consulting, Inc., at that time.

particularly as it pertains to data communications. Has made regular presentations in the ICA Summer Program at University of Colorado for most of the past five summers. Has taught extensively at IBM and Advantis in conjunction with Pace University. Has also presented numerous public seminars and talks on a variety of telecommunications topics.

Department Head of Datakit Systems Engineering, AT&T Bell Laboratories, Holmdel, New Jersey, 1986-1987

Directed systems engineering of Datakit(**), a virtual circuit switching data communications product of AT&T Technologies. Participated extensively in AT&T planning of its data communications and network management architectures, and the products and services resulting from those architectures.

Senior Executive, BDM Corporation, Boulder, Colorado, 1985-1986

Planned data communications networks for various defense agencies. Served as a consultant to several clients on data protocol issues. Developed projections of market for secure Local Area Networks.

Assistant Vice President of Network Compatibility Planning, Bell Communications Research, Livingston, New Jersey, 1983-1985

Directed Bellcore support of the Bell Operating Companies (BOCs) in meeting the technical Equal Access requirements of the Modified Final Judgement. Conducted technical fora with the Inter-exchange Carriers and other carriers on behalf of the BOCs. Managed the North American Numbering Plan. Directed Bellcore's involvement in standards-making efforts, and played a major role in the formation of a new U. S. standards committee, Committee T1. Managed the "technical regulatory" work at Bellcore, which analyzed technical aspects of various FCC proceedings, including the ISDN Inquiry, the consideration of how the Computer II rules applied to the divested BOCs, and Computer III. With respect to the latter, was heavily involved in the work on the Comparably Efficient Interconnection concept, which later led to the Open Network Architecture (ONA) concept. Testified in a Vermont rate case proceeding on the value of Bellcore activities to the BOCs.

Director of Network Architecture Planning, Bell Laboratories, Holmdel, New Jersey, 1981-1983

Managed early Bell System planning for the Integrated Services Digital Network (ISDN). Provided project management to two key data network planning and implementation activities. Managed Bell Laboratories involvement in several U. S. and international standardization activities. Participated in planning for the Bell Laboratories reorganization in preparation for the AT&T Divestiture.

** Datakit is a registered trademark of the AT&T Corporation.

Division Manager of Network Services Standards, AT&T, Basking Ridge, New Jersey, 1979-1981

Managed the effort to describe the interface and performance characteristics of the Bell System network, particularly as necessary to meet the terms of the FCC Registration Program. Directed several components of the Bell Systems participation in international telecommunications standards committee CCITT.

Supervisor and Member of Technical Staff, Bell Laboratories, Holmdel, New Jersey, 1973-1979

Analyses of network performance issues and customer perceptions of performance, highlighted by direction of a pioneering study of customer retrial and abandonment behavior during long-distance telephone calls. Planning for operational processes and operations support systems associated with new Bell System services.

Assistant Professor of Physics, Indiana University, Bloomington, Indiana, 1970-1973

Education

B.S., Physics (1964), Carnegie Institute of Technology (now Carnegie-Mellon University), Pittsburgh, Pennsylvania.

Ph.D., Physics (1969), Johns Hopkins University, Baltimore, Maryland.

Other Activities and Awards

Member of the Board of Directors, American National Standards Institute, 1983-1985. National Defense Education Act Fellowship, 1965-1968. Member of IEEE, and Sigma Xi academic society.

Doctoral Dissertation Title

K^{+} - Scattering and Related Effects in the Reaction
$K^{+}p \rightarrow K^{+} - ^{++}$ at 5.43 BeV/c (1969).

Graduate Courses Taught

ATM Overview	ATM Technology
Broadband Applications Essentials	Broadband Wide Area Networks
Computer Communications Essentials	Computer Networks
Advanced Data Communications	Data Communications Essentials
Internetworking and TCP/IP Overview	Local Area Network Overview
Multi-Protocol Networking	Networking Trends and Directions
Network Management	T1/T3 Networking Principles

TCP/IP Architecture
Telecommunications Essentials
Telecommunications Industry Essentials
Telecommunications Standards
Voice Applications Essentials

Participation in Regulatory Proceedings

Written direct testimony and rebuttal testimony filed with the State Corporation Commission of the State of Kansas dealing with the use of the HAI Model for estimating the cost of universal service, Topeka, Kansas, April, 1999.

Testimony before the Nevada Public Utilities Commission dealing with the use of the Nevada HAI Model to estimate the cost of unbundled network elements provided by Nevada Bell, Reno, Nevada, November, 1998. Preceded by written testimony and presentations to several workshops on the Nevada HAI Model.

Testimony before the Texas Public Utilities Commission dealing with appropriate inputs values to be used in the HAI Model Release 5.0a for estimating the cost of universal service, Austin, Texas, September, 1998.

Testimony before the Washington Utilities and Transportation Commission dealing with the appropriate methodology for estimating the cost of universal service, Olympia, Washington, September, 1998. Preceded by written testimony and rebuttal testimony.

Testimony before the Nevada Public Utilities Commission dealing with the use of the Nevada HAI Model to estimate the cost of unbundled network elements provided by Centel, Carson City, Nevada, August, 1998. Preceded by written testimony and presentations to several workshops on the Nevada HAI Model.

Testimony before the Texas Public Utilities Commission dealing with the use of the HAI Model Release 5.0a to estimate the cost of universal service, Austin, Texas, June and March, 1998. Preceded by written direct testimony, rebuttal testimony, supplemental rebuttal testimony, supplemental testimony, and reply to supplemental testimony.

Testimony before the Minnesota Public Utilities Commission dealing with the use of the HAI Model Release 5.0a to estimate the cost of universal service, St. Paul, Minnesota, February, 1998. Preceded by written testimony, supplemental testimony, and rebuttal testimony.

Testimony before the Colorado Public Utilities Commission dealing with the use of the Hatfield Model 4.0 to estimate the cost of universal service, Denver, Colorado, December, 1997. Preceded by written direct testimony, supplemental direct testimony, and rebuttal testimony.

Presentation to the Oregon Public Utilities Commission workshop on cost proxy models dealing with the Hatfield Model 4.0, Salem, Oregon, November, 1997.

Testimony before the New Jersey Board of Public Utilities dealing with the cost of universal service and interexchange carrier access, Newark, New Jersey, October, 1997. Preceded by written testimony filed September, 1997.

Presentation to a Pennsylvania Public Utility Commission Universal Service Workshop dealing with the Hatfield Model 4.0, Harrisburg, Pennsylvania, October, 1997.

Presentation to the Colorado Public Utility Commission Staff and the Office of Consumer Counsel dealing with the Hatfield Model 4.0, Denver, CO, July, 1997.

Testimony before the Washington Utilities and Transportation Commission dealing with the appropriate methodology for estimating the cost of unbundled network elements provided by incumbent local exchange carriers, Olympia, Washington, July, 1997. Preceded by written testimony, rebuttal testimony, and surrebuttal testimony.

Testimony before the Virginia State Corporation Commission dealing with the cost of unbundled network elements provided by Bell Atlantic of Virginia, Richmond, Virginia, June, 1997. Preceded by written testimony and rebuttal testimony.

Presentation to the Nevada Public Service Commission Cost Workshop dealing with the appropriate methodology for estimating the cost of universal local exchange service, Carson City, Nevada, April, 1997.

Presentation to the Colorado Public Utilities Commission Staff High Cost Fund Task Force dealing with the appropriate methodology for estimating the cost of universal local exchange service, Denver, Colorado, March, 1997.

Presentation to the Washington Utilities and Transportation Commission staff dealing with proxy cost models, and Hatfield Model Release 3, Olympia, WA, February, 1997.

Presentation to the Federal-State Joint Board on Universal Service dealing with Version 3 of the Hatfield Model, Washington, DC, January, 1997.

Testimony before the New Jersey Board of Public Utilities dealing with the cost of unbundled network elements in connection with the generic arbitration proceeding, Newark, NJ, January, 1997. Preceded by written testimony.

Testimony before the Washington Utilities and Transportation Commission dealing with the cost of unbundled network elements in connection with MCI's arbitration case vs. U W West, Olympia, WA, November, 1996. Preceded by written testimony.

Testimony before the Commonwealth of Massachusetts Department of Public Utilities dealing with the cost of unbundled network elements in connection with MCI's arbitration case vs. NYNEX, Boston, MA, November, 1996. Preceded by written testimony.

Testimony before the New Jersey Board of Public Utilities dealing with the cost of unbundled network elements in connection with MCI's arbitration case vs. Bell Atlantic of New Jersey, Morristown, NJ, November, 1996. Preceded by written testimony.

Testimony before the Texas Public Utilities Commission dealing with the cost of unbundled network elements in connection with AT&T's and MCI's consolidated arbitration case vs. GTE, Austin, Texas, November, 1996. Preceded by written testimony.

Testimony before the New York Public Service Commission dealing with the cost of unbundled network elements in connection with MCI's arbitration case with NYNEX, Albany, NY, October, 1996. Preceded by written testimony.

Testimony before the Washington Utilities and Transportation Commission dealing with the cost of unbundled network elements in connection with three arbitration cases: AT&T vs. U S West, AT&T vs. GTE, and MCI vs. U S West, Olympia, WA, October - November, 1996. Preceded by written testimony and rebuttal testimony.

Testimony before the Utah Public Service Commission dealing with the cost of unbundled network elements in connection with AT&T's arbitration case vs. U S West, Salt Lake City, UT, October, 1996. Preceded by written testimony.

Presentation on the Hatfield Model to the arbitrator in the Massachusetts arbitrations of AT&T and MCI vs. NYNEX, Boston, MA, October, 1996.

Testimony before the Texas Public Utilities Commission dealing with the cost of unbundled network elements in connection with AT&T's and MCI's consolidated arbitration case vs. Southwestern Bell, Austin, Texas, October, 1996. Preceded by written testimony.

Testimony before the California Public Utilities Commission dealing with the cost of unbundled network elements in connection with four arbitration cases: AT&T vs. Pacific Bell, AT&T vs. GTE, MCI vs. Pacific Bell, and MCI vs. GTE, San Francisco, California, September - October, 1996. Preceded by written testimony and rebuttal testimony.

Testimony before the New Jersey Board of Public Utilities dealing with the cost of unbundled network elements in connection with AT&T's arbitration case with Bell Atlantic of New Jersey, Newark, New Jersey, September, 1996. Preceded by written testimony.

Testimony before the New Jersey Board of Public Utilities dealing with the cost of basic local exchange service, Newark, New Jersey, September, 1996. Preceded by written testimony and rebuttal testimony.

Testimony before the California Public Utilities Commission dealing with the state of local exchange competition, San Francisco, California, August, 1996. Preceded by prefiled written testimony and rebuttal testimony.

Presentations on the Hatfield Model to the staffs of the Federal-State Joint Board on Universal Service, Iowa Department of Commerce Utilities Board, Texas Public Utilities Commission, New Jersey Board of Public Utilities, and New York Public Service Commission, July-August, 1996.

Testimony before the Utah Public Service Commission dealing with a methodology to estimate the cost of universal service provided by U S WEST in the state of Utah, Salt Lake City, Utah, May, 1996. Preceded by prefiled written testimony and surrebuttal testimony.

Testimony before the California Public Utilities Commission dealing with the estimated cost of basic telephone service provided by Pacific Bell and other local exchange carriers in the state of California, San Francisco, California, May, 1996. Preceded by prefiled written testimony, rebuttal testimony, and surrebuttal testimony.

Testimony before the Maryland Public Service Commission dealing with the cost of local exchange service in the state of Maryland, in conjunction with MCI's Competition Plus initiative, Baltimore, MD, April, 1996, preceded by prefiled written testimony and surrebuttal testimony.

Presentation to the Ministry of Communications and Transportation of Mexico on Telmex' costs to provide interconnection to long distance carriers, Mexico City, Mexico, March, 1996.

Testimony before the Pennsylvania Public Service Commission dealing with a methodology to estimate the cost of universal service provided by Bell Atlantic of Pennsylvania and other local exchange carriers in the state of Pennsylvania, Harrisburg, PA, March, 1996. Preceded by prefiled written testimony, rebuttal testimony, and surrebuttal testimony.

Testimony before the Washington Utilities and Transportation Commission dealing with the cost of local exchange service provided by U S WEST in the state of Washington, Seattle, Washington, January, 1996. Preceded by prefiled written testimony, amended testimony, and surrebuttal testimony.

Testimony before the Maryland Public Service Commission dealing with Bell Atlantic's cost of providing basic local exchange service in Maryland, August, 1995. Preceded by prefiled written testimony.

"Modeling Basic Universal Service for Pennsylvania," with A. Daniel Kelley, presentation to the staff of the Pennsylvania Public Service Commission, Harrisburg, PA, July, 1995.

Testimony before the Illinois Commerce Commission dealing with AT&T's proposal on conditions to test the potential for local exchange competition, and Ameritech's proposed Customer First Plan, Chicago, IL, October, 1994. Preceded by prefiled written testimonies concerning the two proposals, rebuttal testimony, and surrebuttal testimony.

Testimony before the Canadian Radio-Television and Telecommunications Commission on behalf of Unitel Communications, Inc. concerning Comparably Efficient Interconnection and Open Network Architecture, Ottawa, Ontario, Canada, December, 1993.

Rebuttal testimony before the Georgia Public Service Commission on behalf of the Georgia Cable Television Association concerning Southern Bell's Open Network Architecture tariff filings in Docket 4018-U, Atlanta, GA, February, 1993.

Testimony before the Georgia Public Service Commission on behalf of the Georgia Cable Television Association concerning Southern Bell's Open Network Architecture tariff filings in Docket 4018-U, Atlanta, GA, January, 1993.

Prefiled testimony and rebuttal testimony submitted to the Oregon Public Utilities Commission on behalf of Electric Lightwave, Inc. (ELI) dealing with the comparability of services offered by ELI, U S WEST, and GTE Northwest, January-February, 1993.

Testimony before the Florida Public Service Commission on behalf of the Florida Cable Television Association concerning Southern Bell's plans for the Broadband Integrated Services Digital Network, Tallahassee, Florida, March, 1990.

Telecommunications Textbooks/Papers/Articles

"Hatfield Model Release 5.0 Model Description," principal author, published by the International Transcription Service, Washington, DC, December, 1997.

"Hatfield Model Release 4.0 Model Description," principal author, published by the International Transcription Service, Washington, DC, August, 1997.

"Hatfield Model Release 3.1 Model Description," principal author, published by the International Transcription Service, Washington, DC, February, 1997.

Local Telecommunications Cost Modeling: Theory and Practice, coauthored with Richard Chandler and A. Daniel Kelley, presented at the Twenty-Fourth Annual Telecommunications Policy Research Conference, Georgia, September, 1996.

"Overview of Enterprise Network Developments," IEEE Communications Magazine, January, 1996, p. 30.

A Model For Determining the Cost of Basic Universal Service in Pennsylvania, with A. Daniel Kelley and R. Chandler, paper submitted to the Pennsylvania Public Service Commission in Docket L-00950101, Harrisburg, PA, July, 1995

ONA: A Promise Not Realized -- Reprise, with A. Daniel Kelley, paper filed by MCI Communications Corporation and others in the FCC's Notice of Proposed Rulemaking in the Computer III Remand Proceeding, Washington, DC, April, 1995.

Declaration (no title) filed by California Cable Television Association with the Federal Communications Commission in connection with Pacific Bell's Section 214 Applications to construct Video Dialtone facilities, Washington, DC, April, 1995.

Affidavit (no title) filed by California Cable Television Association with the Federal Communications Commission in connection with Pacific Bell's Section 214 Applications to construct Video Dialtone facilities, Washington, DC, January, 1995.

"Telecommunications Technology" and "Utility Applications of Telecommunications," chapters in report titled Business Opportunities and Risks for Electric Utilities in the National Information Infrastructure, published by the Electric Power Research Institute, Palo Alto, CA, October, 1994.

"VSATs Link Far-Flung LANS," with S. Kroder, Business Communications Review, October, 1994, p. 51.

Technical and Economic Issues in the Further Notice, with A. Daniel Kelley, paper filed by Time Warner Entertainment Company in the FCC's Further Notice of Proposed Rulemaking, Docket 94-28, Washington, DC, July, 1994.

The Vision and Reality of Cable Television Company Entry into Telecommunications, paper prepared for and filed by the Maryland Cable Television Association in connection with Maryland Public Service Commission Case no. 8587, Baltimore, MD, June, 1994.

Affidavit (no title) filed by California Cable Television Association with the Federal Communications Commission in connection with Pacific Bell's Section 214 Opposition to Motion for Investigation of its application to construct Video Dialtone facilities in California, Washington, DC, June, 1994.

Affidavit (no title) filed by California Cable Television Association with the Federal Communications Commission in connection with Pacific Bell's Section 214 application to construct Video Dialtone facilities in California, Washington, DC, March, 1994.

The Enduring Local Bottleneck: Monopoly Power and the Local Exchange Carriers, with Economics and Technology, Inc., published report, February, 1994.

Regulatory Parity and Public Policy, with A. Daniel Kelley, paper filed by Time Warner Entertainment Company as part of its Reply Comments in FCC docket MM Docket 93-215, September, 1993.

Further Views on the Role of CEI/ONA, paper filed by Unitel Communications Inc. as part of its Amendments to Evidence in the Canadian Radio-television Telecommunications Commission (CRTC) Public Notice 92-78, September, 1993.

Cross-Subsidy Concerns Raised by Local Exchange Carrier Provision of Video Dial Tone Services, with Dan Kelley, paper filed as part of a petition by the National Cable Television Association to the Federal Communications Commission, Washington, DC, April, 1993.

A General Approach to Local Exchange Carrier Pricing and Interconnection Issues, co-authored with Daniel Kelley, presented at the Twentieth Annual Telecommunications Policy Research Conference, Solomons Island, Maryland, September, 1992.

"Frame Relay: `Caveat Emperor' (Let the Buyer Be Wary of the Leader)," Telecom Data Report, August 1, 1992, p. 14.

LAN Basics, book co-authored with Roberta Martine, Intertec Publishing Corp., Chicago, IL, ISBN 0-917845-20-X, May, 1992.

New Local Exchange Technology: Preserving the Bottleneck or Providing Competitive Alternatives?, principal author, paper filed by MCI in FCC's Advanced Intelligent Network Inquiry, April, 1992.

"The Audio Messaging Interchange Specification (AMIS)," chapter in Managing Voice Networks, Datapro Information Services Group, McGraw-Hill, Inc, Delran, NJ, 1992.

"The Technology of Broadband Networks," chapter in book Integrated Broadband Networks - The Public Policy Issues, North-Holland, Amsterdam, Netherlands, 1991.

"AMIS Launches a New Era in Voice Messaging," Business Communications Review, October, 1990, p. 41.

The Opportunities of the Regional Bell Operating Companies Under Current Market Conditions to Discriminate Against Competing Information Services, Affidavit filed by the National Cable Television Association and the American Newspaper Publishers Association with the United States District Court for the District of Columbia in Civil Action 82-0192, Washington, DC, October, 1990.

"The ONA Connection," Proceedings of the National Communications Forum, 43, No. 1, October, 1989, p. 339. Talk presented at the conference, Chicago, Illinois, October, 1989.

"AMIS: Soon to be Famous," Business Communications Review, May, 1989, p. 50.

"ONA as a Motivator of Enhanced ISDNs," Proceedings of the National Communications Forum, 42, No. 1, October, 1988, p. 602. Talk presented at the conference, Chicago, Illinois, October, 1988.
"ONA: Why Should Users Care?," Business Communications Review, September-October, 1988, p. 50.

A Response to the ONA Reply Comments of Shooshan and Jackson, with D. Hatfield, written ex parte submission filed with the Federal Communications Commission in connection with Third Computer Inquiry proceeding (CC Docket No. 85-229), July, 1988.

"Open Network Architecture: A Promise Not Realized," with D. Hatfield, Telecommunications Magazine, July, 1988, p. 64.

"Unbundling - A Key ONA Requirement Not Met," Network World, July 11, 1988.

Open Network Architecture: A Promise Not Realized, with D. Hatfield, paper filed with the Federal Communications Commission in connection with Third Computer Inquiry proceeding (CC Docket No. 85-229), April, 1988.

"ONA: Motivator of a Full ISDN," Proceedings of the National Communications Forum, 41, No. 1, September, 1987, p. 481.

"ONA: Recovering from a Shattered Illusion," Perspective article, Communications Week, April 13, 1987.

Affidavit (no title) filed on behalf of the National Cable Television Association in Civil Action 82-0192 (USA vs. Western Electric Company and American Telephone and Telegraph Company), March, 1987.

Reply Comments of the BDM Corporation, filed in the FCC Third Computer Inquiry (Common Carrier Docket 85-229), January, 1986.

Comments of the BDM Corporation, filed in the FCC Third Computer Inquiry (Common Carrier Docket 85-229), November, 1986.

"What Equal Access Means to Telcos," Telephone Engineering and Management, November 1, 1983, p. 99.

"A Study of Network Performance and Customer Behavior During DDD Call Attempts in the USA," with F. Duffy, Bell System Technical Journal, 57, January, 1978, p. 1.

Seminars/Talks

"Access Technologies," presentation to the ICA Network Technology Institute, Boulder, Colorado, August, 1999.

"Where Telecommunications Technology and the Industry are Heading," presentation to the Law Seminars International Conference on Local Telecommunications Infrastructure Options, Dallas, Texas, June, 1999.

"Utilizing the Total Element Long Run Incremental Costing Models (TELRIC) to Price Network Services," panel discussion session at the conference "Controlling and Allocating Costs in Telecommunications," Washington, DC, January, 1999.

"Future Directions in Telecommunications," seminar for the University of Denver Telecommunications Workshop for ICG-Netcom, Denver, Colorado, July, 1998.

"The Internet and the Telecommunications Infrastructure: If It's Broken, Fix It," presentation to the ICA Summer Program, Boulder, Colorado, June 1998.

"Practically Applying the HAI Model and the Benchmark Cost Proxy Model," with Kevin Deno-Duffy, workshop at the conference "Exploiting Cost Allocation Strategies in Telecommunications," San Diego, CA, June, 1998.

"The Emerging Telecommunications Infrastructure," Telecommunications Reports seminar, Washington, DC, December, 1997.

"Practical Applications of the Hatfield Model and Benchmark Cost Proxy Model," with James Dunbar, workshop at the conference "Exploiting Cost Allocation Strategies in Telecommunications," Atlanta, GA, September, 1997.

"The Great Debate: Exploring the Applicability of 'The Models'," participation in a panel discussion at the conference "Exploiting Cost Allocation Strategies in Telecommunications," Atlanta, GA, September, 1997.

"Emerging Telephone Networks and the Internet," Telecommunications Reports seminar, San Francisco, California, May, 1997.

"Emerging Telephone Networks and the Internet," Telecommunications Reports seminar, Washington, DC, October, 1996.

"Overview ... Let the Games Begin," participation in a panel discussion at the conference "Interconnection and the Competitive Checklist," Washington, DC, June, 1996.

"Local Loop Competition," talk presented to ICA Summer Program, University of Colorado, Boulder, CO, June, 1996.

"A Look at the Future: Business and Industry Experts Discuss the Implications of the Act," participation in a panel discussion at the conference "The Telecommunications Act of 1996," Denver, CO, March, 1996.

"Emerging Carrier Technologies & Architectures," Telecommunications Reports seminar, Washington, DC, March, 1995.

"Evolving the Physical Network," seminar session at the ICA Annual Conference, Anaheim, CA, March, 1995.

"Fast Lane or Frontage Road: The State of the Infrastructure," Experts' Panel Discussion at the Convergence '94 Conference on Opportunities on the Information Superhighway, Washington, DC, November, 1994.

"Telecomm Fundamentals," pre-conference seminar presented at the Convergence '94 Conference, Washington, DC, November, 1994.

"Predictions and Outlook for Reinventing the `Last Mile' in View of New Applications and Technologies," Experts' Panel Discussion at the Telecommunications Reports Conference on New Local Loop Technologies and Applications, Washington, DC, October, 1994.

"Emerging Local Loop Technologies and Architectures," Telecommunication Reports seminar, Washington, DC, October, 1994.

"The Cost of Basic Universal Service," talk presented to the National Association of Regulatory and Utility Commissioners (NARUC) Summer Meeting, San Diego, CA, July, 1994.

"Applying Network Architectures," talk presented to ICA Summer Program, University of Colorado, Boulder, CO, June, 1994.

"Evolution of Access Providers and Carrier Technologies," talk presented to ICA Summer Program, University of Colorado, Boulder, CO, June, 1994.

"Choosing an Effective Network Migration Strategy," talk and panel moderator for session at ICA Expo '94, Dallas, TX, May, 1994.

"Management of the Enterprise Network: SNMP, SMP, CMOT," talk presented to the ICA Expo '94, Dallas, TX, May, 1994.

"The Information Superhighway: The Next Business Frontier," Denver Business & Economics Council panel discussion involving self and others, Denver, CO, April, 1994.

"Emerging Local Loop Technologies and Architectures," with D. Hatfield, Telecommunication Reports seminar, Washington, DC, April, 1994.

"Telecommunications Technology - Today and Tomorrow," talk presented to the EFT Association Annual Conference, Tysons Corner, VA, March, 1994.

"Emerging Local Loop Technologies and Architectures," with D. Hatfield, Telecommunication Reports seminar, Washington, DC, December, 1993.

"Understanding Telecommunications Technology for the Cable Television Professional," post-conference tutorial presented at the Convergence '93 Conference, Washington, DC, November, 1993.

"The Basics of Numbering, Dialing, and SS#7-Based Call Routing," tutorial presented at the Telecommunication Reports Conference on Telecom Numbering and Portability, Washington, DC, August, 1993.

"Overview and Analysis of Numbering Issues," talk presented at the Telecommunication Reports Conference on Telecom Numbering and Portability, Washington, DC, August, 1993.

"Enabling Technologies for the Cable-Based Electronic Superhighway," talk to the CableLabs Conference on Visions of the Electronic Superhighway, Breckenridge, CO, July, 1993.

"Data Communications and Network Developments," CableLabs, Inc. seminar, Denver, CO, July, 1993.

"Emerging Hybrid Network Environment," talk presented to the ICA Summer Program, University of Colorado, Boulder, Colorado, June, 1993.

"Understanding Telecommunications Technology for the Cable Television Professional," pre-conference tutorial presented at the Convergence '93 Conference, Denver, CO, May, 1993.

"Technological Perspective: Advances in Technology That Have Formed the Basis for Local Competition," talk presented at CompTel's Educational Seminar on Competitive Local Access, New Orleans, LA, May, 1993.

"AIN Interconnection -- A Non-Regulated Provider View," talk presented at the AIN ComForum session on the regulatory and policy aspects of AIN, Denver, CO, March, 1993.

"IIA/AMIS Forum" session at Voice '92 Conference, Atlanta, Georgia, November, 1992, moderator and speaker.

"Cracking the Telecom Code," with D. Hatfield and D. Kelley, CableLabs, Inc. seminar, Denver, CO, November, 1992.

"Emerging Local Loop Technologies and Architectures," with D. Hatfield, Telecommunication Reports seminar, Washington, DC, November, 1992.

"Transmission Control Protocol/Internet Protocol (TCP/IP) Architecture," seminar presented in the International Communications Association Master the Fundamentals of Telecommunications Symposium, Atlanta, Georgia, May, 1992.
"Alternative Broadband Networks," seminar presented in the University of Colorado Telecommunications Program, November, 1991.

"Interconnection of LANs in the 1990's," talk presented to the ICA Summer Program, University of Colorado, Boulder, Colorado, June, 1991.

"Telecommunications Technology: An Introduction and Discussion of Future Developments," talk presented to the Annenberg Washington Program Summer Faculty Workshop, Washington, DC, June, 1991.

"Local Loop Technologies and Strategies," a Telecommunication Reports seminar, Atlanta, Georgia, May, 1991, with D. Hatfield; also presented on four prior occasions during 1990-1991.

"ONA: The ISDN Connection," talk presented to the Information Gatekeepers Conference on ISDN Now, Denver, Colorado, June, 1990.

"ESP Interests in State Regulatory Proceedings on ONA," presentation to the Regional Oversight Committee Meeting of the U.S. WEST Regulators, March, 1989.

"An ESP Perspective on ONA," presentation to Special Open Meeting of the State of Colorado Public Utilities Commission, January, 1989.

"The Policy Challenge of ONA," panel discussion at the sixth annual Telephone Issues for the States, sponsored by Consumer Federation of America, Washington, DC, November, 1988.

"The Technology of Broadband Networks," presented at the Integrated Broadband Networks conference sponsored by the Columbia University Center for Telecommunications and Information Studies, New York, New York, September, 1988. Paper submitted for publication in the conference proceedings.

"Network Control Systems and Software," presented at the International Communications Association (ICA) Summer Program, University of Colorado, Boulder, CO, June, 1988

"Understanding Open Network Architecture: A Tutorial for Policymakers," seminar presented with Dale N. Hatfield at the Annenberg Washington Program of Northwestern University, Washington, DC, February, 1988.

"Common Carrier Computer Networks," presented at the Pacific Bell Conference on Applied Research in Network Technology, San Ramon, CA, November, 1987.

"ONA: Motivator of a Full ISDN," presented at the National Communications Forum, Chicago, Illinois, September, 1987 (also presented at the Eastern Communications Forum, Ryetown, New York, May, 1988).

"The Future of T-1," panel discussion at the ICA Summer Program, University of Colorado, Boulder, Colorado, June, 1987.

Panel discussion on Telecommunications Research in the Competitive Industrial Environment, University of Colorado Conference on Educating the Telecommunications Professional, November, 1986.

"Issues in the Migration of Military Communications to an ISDN," presented at the 1986 IEEE Military Communications Conference, Monterey, California, October, 1986.

"ISDN: A Technology Looking for a Place to Happen," presented at the ICA Summer Program, University of Colorado, Boulder, Colorado, June, 1986.

"Influence of Regulation on Network Evolution," presented at the 10th Michigan Conference on Public Utility Economics, Ann Arbor, Michigan, November, 1985.

"Quality of Service Activities in the CSO," presented at the IEEE Globecomm Conference, San Diego, California, November, 1983.

"Data Communications Performance Standards," presented at the International Conference of Communications, Denver, Colorado, June, 1981.

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Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Application by New York Telephone Company	)	
(d/b/a Bell Atlantic-New York), Bell Atlantic	)	
Communications, Inc., NYNEX Long Distance	)	CC Docket No. 99-295
Company, and Bell Atlantic Global Networks, Inc.,	)	
for Authorization to Provide In-Region,	)	
InterLATA Services in New York	)	

JOINT DECLARATION OF
DR. T. RANDOLPH BEARD
AND DR. JOHN W. MAYO
ON BEHALF OF MCI WORLDCOM, INC.

T. Randolph Beard and John W. Mayo hereby declare and state as follows:

I. QUALIFICATIONS AND PURPOSE

1. My name is T. Randolph Beard. My business address is Department of Economics, College of Business, 415 West Magnolia - Room 203, Auburn University, Auburn, Alabama, 36849-5242. I am an economist. My current position is Associate Professor of Economics at Auburn University. I hold a Ph.D. degree in Economics from Vanderbilt University (1988). My work focuses on industrial economics and regulation. I have published articles on regulation, public utility pricing, and industrial organization in journals such as the *RAND Journal of Economics, The Journal of Business, The Journal of Industrial Economics, The Review of Economics and Statistics*, and many others. A copy of my vita is attached as Attachment 1.

2. My name is John W. Mayo. My business address is Georgetown University, McDonough School of Business, Washington, DC, 20057. I am Senior Associate Dean and Professor of Economics, Business, and Public Policy in the McDonough School. I hold a Ph.D. in economics from Washington University, St. Louis (1982), with a principal field of concentration in industrial organization, which includes the analysis of antitrust and regulation. I also hold both an M.A. (Washington University, 1979) and a B.A. (Hendrix College, Conway, Arkansas, 1977) in economics. I have taught economics, business and public policy courses at Washington University, the University

of Tennessee and Virginia Polytechnic Institute (VPI). Also, I have served as the Chief Economist, Democratic Staff of the U.S. Senate Small Business Committee. Both my research and teaching have centered on the relationship of government and business, with particular emphasis on regulated industries.

3. I have authored numerous articles and research monographs, and have written a comprehensive text entitled *Government and Business: The Economics of Antitrust and Regulation*, (with David L. Kaserman), The Dryden Press, 1995. I have also written a number of specialized articles on economic issues in the telecommunications industry. These articles include discussions of competition and pricing in the telecommunications industry and have appeared in academic journals such as the *RAND Journal of Economics*, the *Journal of Law and Economics*, the *Journal of Regulatory Economics*, and the *Yale Journal on Regulation*. A more detailed accounting of my education, publications and employment history is contained in Attachment 2.

4. We have been asked by MCI WorldCom to evaluate Bell Atlantic's application to enter the interLATA long-distance market within New York under the provisions of Section 271 of the Communications Act, as amended by the Telecommunications Act of 1996. This Section establishes four preconditions that a Bell Operating Company (BOC) must satisfy before it may enter (or, more accurately, reenter) the interLATA market in its region. First, the BOC must demonstrate that it is providing interconnection to competitive local exchange providers (at least one of which is predominantly a facilities-based carrier) or, under certain limited circumstances, that interconnection is generally available to potential competitors. Second, the BOC must fully implement the "competitive checklist" contained in Section 271. The third precondition imposed by Section 271 is that the BOC seeking approval to reintegrate complies with the Act's nondiscrimination and structural separation requirements.

5. Finally, and importantly, the Act instructs the FCC to deny the application unless it finds that the requested reintegration is consistent with the "public interest." From an economic standpoint, such a determination would require that the benefits accruing to telecommunications consumers exceed any potential harm to those consumers as a result of the reintegration. Our statement is intended to provide the economic framework for evaluating these critical dimensions of the public interest.

6. We do not address here the role of regulation in the development of local competition before a BOC seeks authority to reintegrate. Public policies play a critical role in allowing local competition to develop in the first place. The competitive checklist in Section 271 focuses on the success of regulation in promoting local competition up to the time of the application. Full implementation of the checklist does not, however, ensure the presence of effective competition, and it cannot guarantee the continued absence of discrimination in the quality of services provided by the BOCs to the entrants. Here, we consider the public interest inquiry, which is a separate and complementary, not substitutable, consideration. In particular, we consider the role of competition and

regulation *after* reintegration occurs in maintaining competitive gains that have already been achieved and in enhancing the prospects for increased competition.

II. The Public Interest Standard: A Framework for Section 271 Applicants

7. To determine whether any application for reintegration under Section 271 is in the public interest it is necessary to establish a framework rooted in sound economic logic that permits the Commission to discriminate between meritorious and non-meritorious applications. In this section, we establish just such a framework. We begin by positing that two pillars are fundamental to the support of any application under Section 271. Specifically, whether the public interest is satisfied in the case of any BOC's application is clearly contingent upon: (1) the level of competition in the applicant's local exchange markets and the corresponding threat to competition posed by premature reintegration of the BOC;[1] and, (2) the degree to which competition-preserving enforcement mechanisms have been successfully deployed to deter anticompetitive activities in the event that reintegration is permitted.

A. The Risk of Monopoly Leveraging.

8. Firms that have monopoly power possess a natural desire to exploit that power. In most situations, this desire will be effectuated by the pricing behavior exhibited in the same market in which the firm holds such power. Economic and legal analysis has found, however, that under certain market conditions the desire to exploit extant market power can spill over to related markets.[2] *Monopoly leveraging* occurs when a firm with significant monopoly power in one market is able to exploit or extend that monopoly

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[1] We dismiss one potential wrinkle in the logic here. Specifically, Professor MacAvoy argues that the critical consideration to drive the public interest is what he believes to be a lack of competition in the long distance markets today. He goes so far as to explicitly take exception to the Commission's position that the focus of attention ought to be broader than an inquiry regarding competition in the long distance market (at 7 n.6). As we show in Attachment 3, the claim that long distance markets are effectively cartelized is, however, nonsense. Accordingly, the public interest test should properly focus on the extent to which local exchange markets are competitive and the degree to which competition-enabling policies and enforcement successfully ameliorate concerns regarding discriminatory conduct on the part of a reintegrated BOC.

[2] See, for example, Michael D. Whinston "Tying Foreclosure and Exclusion," American Economic Review, Vol. 80, pp. 837-59; Jose Carbajo, David De Meza and Michael Siedmann, "A Strategic Motivation for Commodity Bundling," Journal of Industrial Economics, Vol. 38, 1990, pp. 283-98; Louis Kaplow, "Extensions of Monopoly Through Leveraging," Columbia Law Review, Vol. 85, 1985, pp. 515-55; Janusz Ordover, Alan Sykes, and Robert D. Willig, "Nonprice Antitrust Behavior by Dominant Firms toward Producers of Complementary Products," Antitrust and Regulation: Essays in Honor of John J. McGowan, ed. Franklin Fisher, Cambridge, MA., MIT Press, 1985. For specific discussions of monopoly leveraging in the context of the telecommunications industry, see David L. Kaserman and John W. Mayo, Monopoly Leveraging Theory: Implications for Post-Divestiture Telecommunications Policy, Center for Business and Economic Research, The University of Tennessee, March 1993; and, B. Douglas Bernheim and Robert D. Willig, "The Scope of Competition in Telecommunications," working paper, Oct. 25, 1996.

power in related markets. Monopoly leveraging strategies can assume many forms. The most common forms, however, are refusals to deal, tying and bundling arrangements, vertical price squeezes, price discrimination, and service/quality (non-price) discrimination.[3]

9. Several specific market conditions have been shown to facilitate the emergence of monopoly leveraging and other anticompetitive practices. These conditions include:

1) Significant monopoly power in one or more markets;

2) A complementary or vertical relationship between the products involved;

3) The presence of price or profit regulation in the leveraging market;[4] and

4) The monopoly firm's influence on entry/exit, pricing, or investment decisions by rival firms.

10. While the generic conditions that are conducive to monopoly leveraging are readily identifiable, the specific risks of such anticompetitive behavior will vary depending upon the mode of entry utilized by newly entering competitive local exchange carriers. Specifically, it is important to distinguish, as does Section 271 itself, between providing competing services by one's own facilities, and providing services using UNEs or resold services. Under pure facilities-based competition, the competitor uses its own loop, switching and transport facilities, although even a facilities-based CLEC must be able to interconnect with the incumbent to originate and terminate calls to and from BOC subscribers. CLECs may also compete by leasing the incumbent's network elements, either singly (such as unbundled local loops which new entrants connect through collocation to their own switches) or in combination (such as the so-called UNE-platform or UNE-P).

11. Facilities-based competition is fundamentally different from UNE-based competition (and resale competition). First, UNE payments are current expenditures, not sunk investment costs, and they represent a smaller degree of commitment or market attachment. Second, entry by UNEs, while an indispensable part of competitive development, does not by itself create additional capacity, and capacity plays an important role in competition. Most importantly, when UNEs are critical inputs bought by an entrant from a powerful incumbent, the supplier (the BOC) can inflict competitive

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[3] For a discussion, see T. Randolph Beard, David L. Kaserman and John W. Mayo, "Monopoly Leveraging, Path Dependency, and the Case for a Local Competition Threshold for BOC Entry into InterLATA Toll," in Michael A. Crew, editor, Regulation Under Increasing Competition, Kluwer Academic Publishers, Boston, MA, 1999.

[4] Even traditional critics of monopoly leveraging theories such as Judge Robert H. Bork have recognized that regulation provides the regulated monopoly an incentive to engage in monopoly leveraging. See Affidavit of Robert H. Bork on Behalf of AT&T Corp., at 4-5, AT&T Exhibit D, CC Docket No. 97-137.

injury by harming the ability of new entrants to compete on their merits. For example, anticompetitive acts can cause the loss not only of a single customer but more generally damage the broader reputation of a CLEC, and of other CLECs as well. Moreover, the consequences of such actions are likely to be quite long lasting. If a customer has a bad experience with a CLEC that is, in reality, caused by non-price discrimination by a BOC, the damage done to the CLEC is likely to prove difficult to reverse.[5] Put differently, the prospective damage to local competition is likely to be "irreversible" in the event of premature reintegration.

12. The generic conditions that give rise to monopoly leveraging are especially important in light of the fundamentally changed relationship between the BOCs and IXCs upon the BOCs' reintegration into the in-region interLATA market. Specifically, the nature of the relationship changes from one of supplier of access to direct competitor, and continued bottleneck control over this essential input raises the possibility of leveraging activities that have littered the history of telecommunications.[6]

13. Beyond these four market conditions linked to the emergence of monopoly leveraging, a fifth factor – bundling – is likely to enhance the prospects for such behavior. Specifically, economic logic indicates that, in markets where consumers prefer to purchase a vertically related bundle of, say, two services from a single provider, conditions for monopoly leveraging and anticompetitive behavior are enhanced. A preference for bundled service offerings means that consumers are willing to pay a premium to purchase both products from a single provider. If that provider is a monopolist in one of these products, it will be able to monopolize the other product simply by pricing the package at less than the sum of the two unbundled service prices plus that premium. As a result, it will not be necessary to force customers to purchase the other service from the monopolist through a tying arrangement or equivalent constraint. With a positive preference for bundled service offerings, consumers need only be presented the opportunity to do so at non-prohibitive prices.

14. This phenomenon is not just a theoretical concern in local telecommunications markets. It is generally accepted that competition will focus on "bundled" offerings of services, in which a single provider offers interLATA and other forms of toll, local access, and other services such as Internet access, as a common package. Indeed, the desire to offer such packages is one reason for a BOC to pursue the Section 271 process aggressively. The small amount of empirical evidence available on this point suggests

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[5] Moreover, the negative reputation effect brought about by a discriminatory practice leveled upon one CLEC is likely to spread to harm other CLECs who are seeking the patronage of residential and business customers. That is, if customers have a bad experience with one CLEC, the general willingness of consumers to switch local exchange providers is likely to fall.

[6] See, e.g., the examples discussed in T. Randolph Beard, David L. Kaserman and John W. Mayo, "Monopoly Leveraging, Path Dependency, and the Case for a Local Competition Threshold for BOC Entry into interLATA Toll," in Michael A. Crew, editor, Regulation Under Increasing Competition, Kluwer Academic Publishers, Boston, MA, 1999, pp. 37-40.

that some consumers prefer such arrangements.[7] Thus, the competition that one expects to grow in importance is that involving such multiple offerings by integrated providers. As a result, BOC exercise of monopoly power in local markets can have compound effects because local services will be part of any significant bundle of telecommunications services.

15. Once sufficient competition emerges for local exchange service, then competition for bundled service has the potential to yield considerable consumer welfare benefits. On the other hand, premature reintegration (re-entry prior to the erosion of the monopoly position of BA-NY over local exchange facilities) will lead to a *de facto* monopoly over bundled telecommunications service. In this situation, any premium value that consumers place on the consumption of a bundled offering will accrue not to them but instead to Bell Atlantic.

16. The consequence of the emergence of bundled offerings also means that a reintegrated BOC will regard every customer lost to a CLEC as a potential buyer of not one but multiple bundled services. Unlike the pre-reintegration circumstances in which the lost customer ordinarily buys only local exchange service and perhaps some vertical services, post-integration customers become *more* valuable to a BOC, as they represent potential larger profits from the sale of a more extensive bundle of services. Thus, reintegration will produce an important qualitative change in the BOC's incentives to cooperate with CLECs. Specifically, following reintegration there is a heightened desire on the part of the BOC to retain these customers. In the presence of sufficient competition for the local exchange portion of the bundle, this desire to retain customers will force the BOC to offer competitively attractive bundles. If, however, there is insufficient competition for the local exchange portion of the bundled offering, the heightened desire by the BOC to retain its customer base is likely to manifest itself in ways that will damage not only the ability of specific new competitors to enter and compete, but, more generally, the competitive process.

17. Reintegration by a BOC while it retains local monopoly control will significantly increase its incentives for competition-suppressing behavior for another important reason. As has been noted before and, in fact, is inherent in the structure of Section 271, once a BOC reintegrates into the interLATA market (a likely irreversible development), its incentive to cooperate in order to gain such re-entry evaporates. The prospect of reintegration under Section 271 provides a substantial incentive (a 'carrot") for a BOC to cooperate in opening local exchange markets. Absent the Section 271 "carrot," the most likely *market* "stick" to ensure cooperation by a BOC is the threat of foregone business in the event that it fails to provide a prospective CLEC with a fully open platform from

[7] See, e.g., Timothy J. Tardiff, "Effects of Presubscription and Other Attributes on Long-Distance Carrier of Choice," Information Economics and Policy, Vol. 7, 1995, pp. 353-366.

which the new entrant may compete.[8] The magnitude of this threat (and, therefore, the extent to which it may be relied upon) depends upon the market presence and ability to expand by emerging CLECs.

18. As the preceding discussion shows, the threshold risk factor for monopoly leveraging is the absence of effective local competition. As a result, the importance of the presence of local exchange competition as a cornerstone of the public interest standard cannot be overemphasized. The structure and lineage of this industry very clearly point toward the profound risk of monopoly leveraging and other anticompetitive actions in the event of insufficient competition in the provision of local exchange service.[9]

B. THE ROLE OF COMPETITION-MAINTAINING ENFORCEMENT MECHANISMS.

19. The Telecommunications Act and its implementers have sought to open to competition local exchange markets that were solidly monopolistic. Subsequently, local exchange competition has generally been slow in developing.[10] In states with limited and uneven competition in local exchange markets, reintegration is premature in the absence of fundamental and effective public policies aimed at deterring monopoly-leveraging actions. In particular, to the degree that UNE-based competition is the predominant form of the nascent competition in a state, a heightened degree of regulatory oversight is needed. Simply put, where UNEs or resale are likely to remain a key foundation for competitive entry, the maintenance and expansion of local competition will require the cooperation of the BOC not just to fully open – *but to keep open* – the local exchange market to prospective retail competitors.

20. When a BOC seeks reentry in a state with modest competition and particularly of facilities-based competition, the question arises whether sufficient competition-enabling measures and enforcement policies have been established to warrant reintegration. Scrutiny of such policies, combined with a serious assessment of the extent of competition, must be the focus for evaluating the public interest claims of any BOC applicant for reintegration.

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[8] We emphasize "*market*" here to distinguish the potentially powerful and desirable pressures that can be brought through the marketplace from other "sticks" that can be implemented from the *policy* side. We treat the potential for policy to serve as a "stick" below.

[9] The traditional "bottleneck" structure of the telecommunications industry has given rise to anticompetitive practices dating back to the early twentieth century. See, e.g., David F. Weiman and Richard C. Levin, "Preying for Monopoly: the Case of Southern Bell Telephone Company, 1894-1912," Journal of Political Economy, Vol. 102, 1994, pp. 103-126. Monopoly leveraging was, of course, at the heart of the antitrust suits brought against AT&T both by MCI and by the Department of Justice. Moreover, the propensity to employ control over local exchange facilities as a device for denying, denigrating, and delaying competition in related telecommunications markets has continued in the post-divestiture period.

[10] See, e.g., Bart Ziegler, "Out of the Loop," Wall Street Journal Reports, Sept. 21, 1998, at R6.

21. Accepted economic theory of behavior *inconsistent* with the public interest becomes important in any attempt to fashion a policy to protect competition in the face of substantial amounts of significant monopoly power. This theory rests firmly on the proposition that self-interested agents will act to maximize their own well-being.[11] In the case at hand, the profits from monopoly leveraging and other anticompetitive actions stem directly from the retention of monopoly power over local exchange and access services. Accordingly, the most direct way to sever the likelihood of damage to the public interest is to refrain from permitting the applicant to reintegrate until such time as the incentive to engage in monopoly leveraging passes. The passage of this threat occurs when the substantial underlying monopoly power is eliminated. That is, monopoly leveraging is not possible if the firm does not enjoy significant monopoly power.

22. This observation is suggestive of a public policy approach that would rely principally on the emergence of competition in local exchange markets and only in an auxiliary way on post-reintegration enforcement policies. Indeed, there are a number of distinct advantages of this approach. Principal among these advantages is the fact that reliance on regulation to force firms to act competitively has a less than glorious track record. Wherever competition can be relied upon, it is likely to promote the public interest far better than regulation. Thus, as a matter of economics, it is likely to prove most efficient to require the establishment of sufficient competition at the upstream stage to destroy incentives for anticompetitive conduct rather than relying on regulation to enforce competitive performance with the continued presence of significant monopoly power. This "rely on competition" approach to protect the marketplace from anticompetitive practices is also consistent with the Telecommunications Act's goals to promote a "pro-competitive, de-regulatory" policy framework for telecommunications.

23. If, however, reintegration is permitted in spite of the merits of an approach that singularly focuses on a competition threshold, then the public interest merits of reintegration depend on the willingness and ability of policymakers (the Commission and its state-level counterparts) to successfully implement public policies designed to protect and foster existing and future competition and to deter the reintegrated BOC from engaging in anticompetitive activities. In this regard, economic theory clearly delineates the requirements of any effective enforcement system.[12] In particular, the economics of deterrence point toward an active policy of monitoring, detection and enforcement. Collectively, such a policy of detection and enforcement must be designed in such a way to make any anticompetitive action contemplated by the reintegrated firm unprofitable. Again, however, we must emphasize that the first-best mechanism to make such anticompetitive behavior unprofitable is the presence of effective competition at the upstream (local exchange) market level.

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[11] See, e.g. Gary S. Becker, "Crime and Punishment: An Economic Approach," Journal of Political Economy, Vol. 76, 1968, pp. 169-217.

[12] See, e.g., Robert Cooter and Thomas Ulen, Law and Economics, Scott, Foresman and Company, 1988, pp. 535 ff.

24. Effective deterrence of post-reintegration anticompetitive actions can be achieved only if fines and other sanctions, and the probability of detection, are sufficiently high. In general, the fine multiplied by the probability that the fine is paid must exceed the full social cost of the action. Especially where local exchange competition is in nascent stages, special care must also be taken to expedite the imposition of fines when violations are detected. Further, because anticompetitive actions in a market characterized by fledgling competition are likely to have *irreversibly negative consequences,* the magnitude of any fines must be made so severe as to indisputably deter the anticompetitive action that may be contemplated by the BOC. The establishment of severe fines must also come with a credible commitment that regulators will not hesitate to impose these fines. Absent such a credible commitment, the pecuniary magnitude of any fines becomes irrelevant.

25. The consequence of the competition-enabling policies and the enforcement policies established by the state or federal regulators can be conceptualized as in Figure 1. There we see that the extent to which the public interest will be served by the applicant's reintegration will depend upon a combination of the extent of competition in the applicant's local exchange markets and the extent to which enforcement policies (benchmarks, fines, etc.) have been successfully operationalized. In the Figure, the extent of actual competition is measured on the vertical axis. The degree to which enforcement policies have been operationalized is measured along the horizontal axis. For graphical purposes, we necessarily simplify the multidimensional features of such "deterrence" policies. Minimally, any sound deterrence policy is comprised of vigilance, detection, and punishment.

26. Any combination of "competition" and "enforcement" yields some level of public welfare upon the BOC's reintegration. In the event of *effective* competition, only the most minimal levels of enforcement policies are required before reintegration by a BOC sufficiently satisfies the public interest standard. Such as situation is depicted as point A in the Figure. Similarly, in the event of very modest amounts of competition in local exchange markets, greater operational experience with competition-enabling measures and more vigorous enforcement policies are required to achieve a similar level of "the public interest." This is shown as point B. Between points A and B it is conceptually possible to identify a locus of points in competition-enforcement space that represent the minimal combinations of competition and enforcement/deterrence that are necessary to achieve the public interest standard under Section 271. A minimal level of public welfare necessary to satisfy a "public interest" test is shown as P* in the Figure. Levels of competition and competition-enabling and deterrence policies that fall below P* fail to generate sufficient public welfare to be in the public interest.

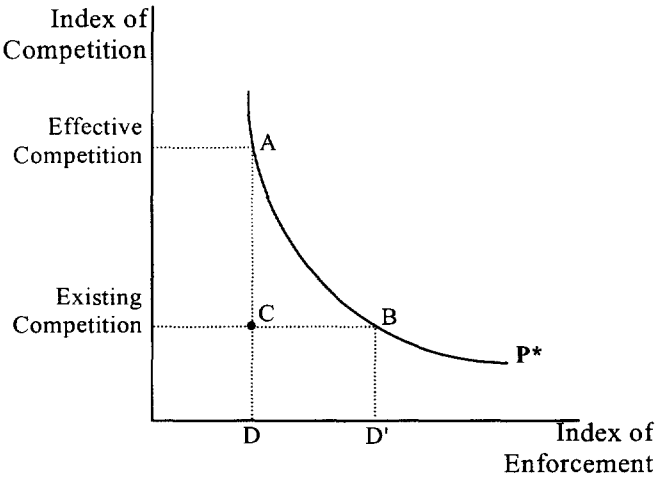

FIGURE 1.
Competition, Deterrence, and the Public Interest Standard

C. SUMMARY.

27. We summarize the public interest standard as follows. The Commission should properly focus its attention on the extent of competition in local exchange markets as part of its deliberation of the public interest standards of Section 271. The public interest is best served by permitting reintegration only when competition in the market can survive and grow without costly and burdensome regulatory enforcement measures. In the presence of effective competition, only minimal levels of post-reintegration enforcement policies are necessary to promote the public interest.

28. To the extent that actual competition falls short of "effective competition," *the irreversibility of competition is clearly dependent upon the implementation of regulatory policies designed to enable further competition and to deter anticompetitive activities.* The smaller the degree of facilities-based competition, the greater the incentives for anticompetitive conduct on the part of a reintegrated BOC, and the more critical the role of competition-preserving regulation after reintegration. Approval of any application for reintegration must be predicated upon a satisfactory combination of facilities-based competition and a comprehensive, aggressive system of enforcement mechanisms that effectively monitor BOC actions and swiftly and sufficiently punish violations.

29. Much discussion of the appropriate "competitive threshold" for Section 271 relief has focused on the question of whether local markets are "irreversibly open to competition."[13] It is commonly argued that a market is "irreversibly open" if competition

[13] The notion of "irreversibility" was introduced by Professor Marius Schwartz in his affidavit on behalf of the DOJ in the Ameritech-Michigan 271 application process.

will successfully survive the altered incentives of the BOC upon re-entry by the BOC into interLATA toll services. Although this is a somewhat weaker requirement than effective competition, these ideas have much in common.[14] In our view, the relevant distinction between these ideas concerns the role of regulation. An effectively competitive market does not require extensive oversight or monitoring by public bodies outside the discipline provided by the antitrust mechanisms. By contrast, "irreversibly open to competition" suggests that regulation has an indispensable role to play. Competition, after all, is supposed to continue to increase: it is not enough that it merely avoid destruction. In any market that is less than effectively competitive, and in which entrants rely on a dominant firm for inputs and cooperation, *competition is not irreversible regardless of the design of policy measures to promote and protect the competitive process*. Oversight, compliance, and monitoring will have a crucial role until facilities investment is sufficient to allow entrants choices in providing bundled services competition.

III. Application of the Public Interest Framework in New York

30. Consistent with the framework described above, the specific merits of Bell Atlantic's application in New York turn on the combination of extant competition in local exchange markets in New York and the degree to which state and federal policymakers have successfully deployed competition-enabling enforcement policies in New York sufficient to permit competition to survive and grow if BA-NY reintegrates into the interexchange business. We now turn to these two key questions: Are New York's local service markets competitive enough to eliminate the need for effective enforcement mechanisms to deter post-reintegration anticompetitive activities?[15] If sufficient competition has not yet developed, are adequate enforcement mechanisms currently in place?

A. LOCAL COMPETITION IN NEW YORK.

31. A significant amount of facilities-based and UNE-based competition has developed in New York. Indeed, it may well be that competition is further advanced in New York than in any other state because of the combination of the high-density, wealthy, and huge New York City metropolitan area (which provides a perhaps uniquely attractive area for entry), and the far-sighted regulatory policy and enforcement in New York. Nevertheless, BA-NY retains control over roughly 95 percent of the local

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[14] This proximity of the concepts is important because it implies that traditional market power indicators such as market share and the height of barriers to entry and expansion can (and ought to) be used to shed light on whether a market meets either threshold.

[15] The degree of competition in the local services markets varies enormously by state, and each case must, by both law and economic reasoning, be evaluated on its own merits. Acceptance or rejection of BA-NY's application in New York implies nothing about applications in other states because competition, entry, and regulatory circumstances differ widely across states.

exchange lines within its service territory in the State of New York, and many CLECs continue to rely heavily on unbundled elements and resold services provided largely or exclusively by BA-NY, and this dependence is unlikely to end anytime soon.

32. There can be no serious question that, by accepted antitrust standards of competitive analysis, New York's local markets are *not* effectively competitive. This fact is easily established by recognizing that, with effective competition, regulation is uncalled-for and unnecessary. Even BA-NY, in its application, spends considerable effort explaining how regulatory mechanisms, such as those in monitoring and enforcement, will presumably work: Section IV.B.1 of the application has the title, " The Regulatory Framework in New York Strongly Favors Competition," while IV.B.2 is "Bell Atlantic is Subject to Comprehensive Performance Reporting and Assurance Mechanisms." These sentiments would be unnecessary in an effectively competitive market.

33. The available information about local services competition in New York confirms that, while a measure of entry has occurred, that entry is not sufficient to establish effective competition. For example, while some CLEC facilities investment has occurred, that investment is overwhelmingly in the New York City area, often in area code 212 (Manhattan). No CLEC appears to resell its lines, so BA-NY is effectively the sole supplier of unbundled elements in its territory. As Dr. Taylor notes, 6000 miles of CLEC fiber has been deployed in New York – a small fraction of BA-NY's fiber deployment – and of that amount roughly 5000 miles are in the New York City metroplex. Similarly, the amount of switching deployed in New York cannot plausibly be thought to eliminate BA-NY's substantial market power. Indeed, despite the switched entry to date, BA-NY still maintains control of 95 percent of the local exchange switches deployed in its service territory.[16] Any entry by CLECs into this former complete monopoly market is, of course, welcome. The levels of entry to date, however, are far from establishing competition at a level that approaches effective competition.

34. BA-NY provides a breakdown of CLEC lines in New York by numbering plan area (NPA).[17] The BA-NY data can be used to show the number of lines provided by competitors using four alternative means of entry: pure facilities-based, UNE loop, UNE platform, and resale.[18] Because BA-NY controls the quality and cost of CLEC services provided using the UNE loop, UNE platform and resale, the BA-NY data must be

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[16] 1998 Statistics of Communications Common Carriers, table 2.4.

[17] Although we assume that BA-NY has provided a count of the CLEC lines within its service area (as opposed to all CLEC lines within New York State), BA-NY does not state affirmatively whether this is the case.

[18] The facilities lines are identified using the E-911 database. For purposes of this analysis we accept BA-NY's use of this database. The BA-NY analysis of CLEC presence is contained in Local Competition in New York State ("Local Competition Report"), Attachment A to the Declaration of William E. Taylor (BA-NY App. A, Vol. 5, Tab 8).

evaluated in light of the critical distinction between pure facilities-based competition and other forms of competition.

35. BA-NY reports that over a million lines are being provided by competitors in New York using the four methods described above. While this number sounds impressive by itself, it must be remembered that BA-NY serves more than 12 million lines.[19] Moreover, according to the BA-NY data, CLEC competitors provide only slightly more than 600,000 lines over their own facilities.[20] This reduces CLEC facilities-based penetration to less than five percent of the lines in New York State. If UNE lines are counted in addition to facility-based lines, CLECs control 6.4 percent of the market, statewide. (See Table 1.)

36. Other data also show that competitors have a small share of the local exchange market in New York. As a long distance carrier, MCI WorldCom terminates access minutes to BA-NY, other ILECs, and CLECs. Because MCI WorldCom has a broad customer base, terminating access minute data provides a good indication of the rough market shares of ILECs such as BA-NY and CLECs. MCI WorldCom provided us with terminating access minute data for June 1999. At that time, CLECs had 3.8 percent of the local exchange minutes in New York State. ILECs received 95.8 percent of MCI WorldCom's terminating access minutes for June, while wireless carriers received the remaining 0.4 percent. Although not limited to BA-NY's service areas, these figures give a rough sense of the magnitude of the activities of CLECs in relation to ILECs.

37. The market penetration numbers discussed above are based on statewide totals. Local exchange markets are obviously limited to much smaller geographic areas. It is also important to note that claims regarding the extent of competition (or market power) require a careful assessment of the geographic scope of the market within which a firm competes. The nature of carrier access and local exchange markets is that they are *local.* Thus, claims regarding competition in New York, which are, in fact, based upon observations of emergent competition in a geographically concentrated area such as Manhattan, grossly distort the view of competition throughout the many local exchange markets in New York. Indeed, as shown by the data submitted by BA-NY, the presence of competition in local exchange and access markets, while not high in any geographic location in New York, is *de minimis* throughout many local exchange markets in New

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[19] See below for a discussion of how BA-NY lines were derived.

[20] BA-NY counts as facilities-based competition both services provided with CLEC loops and switching as well as services provided over unbundled loops combined with CLEC switching. Only the former are true facilities-based competition in the sense that the service is totally independent of provisioning by BA-NY. The data provided by BA-NY allow true facilities based lines to be identified. The unbundled, non-platform loops identified in Table 3 of the BA-NY Local Competition Report must be subtracted from BA's E911 data to derive true facilities-based lines.

York. Even BA-NY does not claim facilities-based competition has spread beyond the business centers of a few major metropolitan areas.[21]

38. Even NPAs do not accurately represent relevant economic markets for local exchange service. Nevertheless, the NPA data are instructive. BA-NY did not reveal the total number of lines it provides in individual NPAs or in New York State as a whole. These lines were estimated using data from PNR Associates.[22] Table 1 shows CLEC lines compared to BA-NY and total lines. In downstate New York, roughly comprised of the 212, 516, 718, 914 and 917 area codes, competitors serve an estimated 5.8 percent of the lines using their own facilities. In upstate New York, facilities-based competitors have only 1.8 percent of the lines. Over 90 percent of the lines served by competitors using their own facilities are in downstate New York.

39. As noted above, geographic markets are generally narrower than NPAs. Given the low penetration of cable telephony services, CLEC facilities are typically limited to the central business districts ("CBDs") of major metropolitan areas ("MSAs"). If the data were available, they would undoubtedly show that CLECs must rely on Bell Atlantic loops, platforms or resale for all but those customers located in a limited number of buildings in the downtown areas of the MSAs. Even the NPA data suggest that this is the case. CLEC facilities penetration is almost 14 percent in Manhattan (NPA 212), but is less than two percent in Brooklyn and Queens (NPA 718), even though Brooklyn and Queens are quite densely populated compared to the rest of the state. Thus, in what is undoubtedly the single most attractive market for CLECs in the entire country, competitors are serving only 14 percent of the lines with their own facilities. As density falls, competitors are able to serve smaller and smaller shares of the market unless they purchase BA-NY facilities.

40. BA-NY fails to provide an NPA-by-NPA breakdown on the relative number of residential and business lines that it believes CLECs are serving. However, it is clear that CLEC facilities penetration is overwhelmingly in the business market. Even BA-NY admits that more than 78 percent of all CLEC lines are business lines. Moreover, more than 200 thousand of the 236 thousand residential CLEC lines identified by BA-NY are due to platform and resale sales.[23] The remaining 35,753 lines represent less than one half of one percent of all BA-NY residential lines. An undetermined number of these lines may be served with unbundled BA-NY loops. Moreover, it is undoubtedly true that the vast majority of these lines are in Manhattan. Thus, the irreversible status of

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[21] See Local Competition Report, at 10.

[22] Both the HAI Consulting, Inc. HM5.1 and the Commission's HCPM cost proxy models use the PNR data. The PNR line data are as of the end of 1996. We extrapolated these data forward to August 1999 based on year over year growth in BA-NY lines as shown in the most recent Statistics of Communications Common Carriers.

[23] See Local Competition Report, at 2.

competition for residential customers in New York is far from obvious at the present time.

41. In summary, the dissolution of *pure* monopoly at the upstream stage in New York is encouraging for the prospect of the eventual sufficiency of market forces to ensure competitive behavior by a reintegrated BA-NY. Nevertheless, the market remains overwhelmingly dominated by BA-NY. Only limited facilities-based competition has yet developed, primarily for large business customers in the metropolitan New York area. CLECs will continue to rely on BA-NY for years in order to be competitive in a bundle-driven market, and this reliance increases with distance from Manhattan. It is clear that local exchange markets in New York remain far from levels that establish the presence of effective competition.

TABLE 1

NPA	BA-NY Lines	CLEC Facility Lines	CLEC Facility Share	CLEC Resale Lines	CLEC Resale Share	CLEC UNE Lines	CLEC UNE Share	CLEC Facility Share plus UNEs	CLEC Retail Share
212	**2,146,384**	**347,741**	**13.9%**	**81,747**	**3.3%**	**60,864**	**2.4%**	**16.4%**	**19.7%**
315	**816,497**	**9,871**	**1.2%**	**27,485**	**3.3%**	**4,979**	**0.6%**	**1.8%**	**5.1%**
516	**2,033,844**	**112,877**	**5.3%**	**45,817**	**2.1%**	**18,482**	**0.9%**	**6.1%**	**8.3%**
518	**773,067**	**19,530**	**2.5%**	**29,583**	**3.7%**	**6,411**	**0.8%**	**3.3%**	**7.0%**
607	**371,584**	**7,816**	**2.1%**	**6,344**	**1.7%**	**4,184**	**1.1%**	**3.2%**	**4.8%**
716	**1,096,873**	**18,078**	**1.6%**	**28,980**	**2.6%**	**8,383**	**0.8%**	**2.4%**	**5.0%**
718	**3,519,773**	**66,964**	**1.9%**	**60,294**	**1.7%**	**82,887**	**2.3%**	**4.2%**	**5.9%**
914	**1,270,361**	**24,448**	**1.9%**	**34,082**	**2.6%**	**10,333**	**0.8%**	**2.7%**	**5.3%**
Total	**12,028,382**	**607,325**	**4.8%**	**314,332**	**2.5%**	**196,523**	**1.6%**	**6.4%**	**8.8%**

- BA-NY lines from HAI 5.1 updated for growth to August 1999
- CLEC Facility lines from Local Competition Report Table 4 (E911 listings less unbundled loops)
- 917 overlay lines allocated to 212 and 718 area codes on basis of relative BA lines

42. Because of the market power retained by BA-NY, any failure, in the next several years, to ensure continued effective nondiscriminatory access to BA-NY's network elements will reduce competition to provide local services individually or in bundles with other services, and slow the emergence of facilities-based competition. One cannot assume that the progress to date will continue in the wake of reintegration because the

incentives faced by BA-NY to facilitate competition change drastically. In fact, all of the factors we identified in Section II above that predispose a firm to engage in monopoly leveraging are present in New York: substantial remaining market power; monopoly control over critical inputs on which CLECs rely; regulation that constrains BA-NY's ability to extract full monopoly profits in the local retail market; and customer demand for bundled products. *Competition thus cannot be irreversible in New York in the absence of significant regulatory safeguards against post-reintegration competitive abuses and backsliding.*

B. ENFORCEMENT ISSUES IN NEW YORK.

43. Because facilities investments by CLECs in New York are insufficient to provide effective competition, the continued success of local competition depends on enforcement mechanisms that ensure that BA-NY will, at a minimum, continue to meet current standards in supplying competitors even after reintegration causes a drastic change in its current incentives. In fact, as explained in Section II, the public interest will be served only if regulators have successfully operationalized sufficient competition-enabling and competition-maintaining policies to deter and punish anticompetitive behavior after reintegration occurs. Because competition is nascent in New York, it is critical that policy measures to enable competition and protect the competitive process are well-established before reintegration is permitted.

44. In July 1999, BA-NY submitted a plan to the NYPSC (amended in September) containing various performance standards, reporting requirements, and remedies for violations. In their declaration, Drs. Ford and Jackson explain the pro-competitive features of this plan. However, they also identify critical weaknesses that prevent the plan from safeguarding even current levels of competition. They explain the changes that need to be made so that remedies are adequate to overcome BA-NY's post-reintegration incentives to engage in anticompetitive activities against any competitively threatening CLEC.

IV. Conclusion

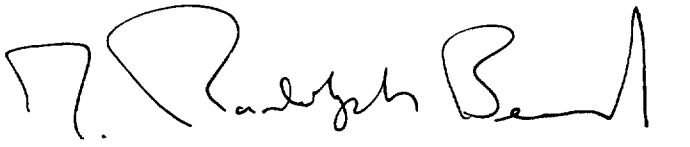
45. Although encouraging progress has been made, local service markets in New York are not yet effectively competitive. CLECs have made substantial investments in their own facilities, at least in the metropolitan area of New York City, and progressive initiatives by the NYPSC, including UNE-P pricing that enables other firms to offer some services in competition with BA-NY. Nonetheless, BA-NY's market share remains more than 93 percent of the local exchange access lines in New York State as a whole (i.e., lines neither owned nor leased by CLECs), and CLEC entry upstate by any entry method is quite limited at this time.

46. If BA-NY is permitted to reintegrate, its incentives to limit local entry by CLECs will increase because of the increasing importance of bundled services and the loss of the

Section 271 "carrot." And these incentives will increase during a critical time when competition is just beginning to emerge and when CLECs generally remain heavily dependent on BA-NY for inputs essential to competition.

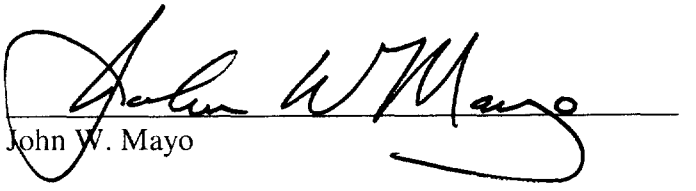
47. This concludes our declaration.

I declare under penalty of perjury that the foregoing is true and correct. Executed on October 15, 1999.



T. Randolph Beard

I declare under penalty of perjury that the foregoing is true and correct. Executed on October 18th, 1999.



John W. Mayo